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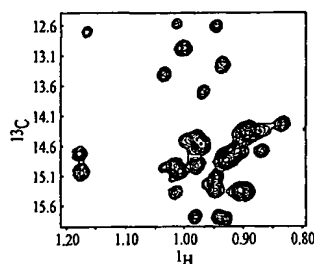
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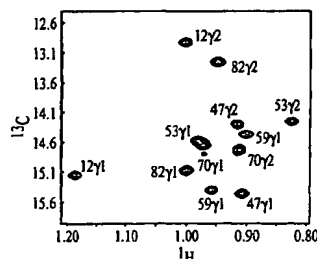
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LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW,  
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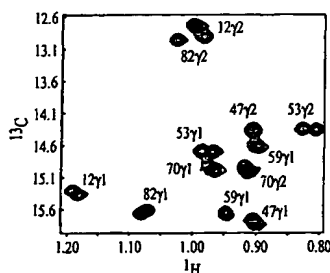
(54) Title: METHOD FOR OBTAINING DYNAMIC AND STRUCTURAL DATA PERTAINING TO PROTEINS AND PRO-  
TEIN/LIGAND COMPLEXES



A



B



C

(57) Abstract: This invention provides an NMR method  
for obtaining both entropic and enthalpic data on proteins  
and protein/ligand complexes which can be used to obtain  
accurate structural and dynamic data of proteins and pro-  
tein complexes having a wide range of molecular weights.  
An embodiment of the invention provides proteins which  
contain at least one bond vector whose dynamics are to  
be measured and which is surrounded by NMR inactive  
nuclei, and amino acids for synthesis of the proteins via  
chemical means or biological expression. The NMR meth-  
ods using specifically labeled proteins for analysis result in  
maximization of the sensitivity and resolution of the NMR  
experiments, and minimization of the loss of signal due to  
diffusion.



(84) **Designated States (regional):** ARIPO patent (GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

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**A. CLASSIFICATION OF SUBJECT MATTER**

IPC(7) : A 61B 5/055; G01N 33/53

US CL : 424/9.34, 9.341; 435/7.1

According to International Patent Classification (IPC) or to both national classification and IPC

**B. FIELDS SEARCHED**

Minimum documentation searched (classification system followed by classification symbols)

U.S. : 424/9.34, 9.341; 435/7.1

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)  
Please See Continuation Sheet**C. DOCUMENTS CONSIDERED TO BE RELEVANT**

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	EICHELE et al. Nitrogen-14 Coupled Dipolar-Chemical Shift 13C NMR Spectra of the Amide Fragment of Peptides in the Solid State, J. Phys.Chem. 1993, Vol. 97, pages 8909-8916, see entire document.	1-11
A	SCHWARZINGER et al. Sequence-Dependent Correction of Random Coil NMR Chemical Shifts, J. Phys.Chem. 2001, Vol. 123, pages 2970-2978, see entire document	1-11
A	US 5,989,827 A (FESIK et al.) 23 November 1999 (23.11.1999), see entire document.	1-11
A	US 5,891,643 A (FESIK et al.) 06 April 1999 (06.04.1999), see entire document.	1-11



Further documents are listed in the continuation of Box C.



See patent family annex.

## \* Special categories of cited documents:

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document member of the same patent family

Date of the actual completion of the international search

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**INTERNATIONAL SEARCH REPORT**

PCT/US03,

**Continuation of B. FIELDS SEARCHED Item 3:**  
**STN WEST BIOSIS SCISEARCH CHEMISTRY**  
search terms: nmr, nuclei, amino acid, <sup>13</sup>C, <sup>15</sup>N, <sup>1</sup>H